

B. ALTERNATIVES DESCRIPTION

This section includes a summary of alternatives suggested in comments on the Draft EIR (Section B.1), a description of the alternatives analyzed in this Supplemental Draft EIR (Section B.2), and an explanation of why the remaining suggested alternatives were not analyzed in this document (Section B.3). Because several suggested alternatives involve installation of underground transmission lines, Section B.4 summarizes construction techniques and operational concerns related to underground transmission lines.

B.1 SUMMARY OF SUGGESTED CHANGES TO ALTERNATIVES

The Draft EIR included detailed analysis of several alternatives to the proposed project, including alternative transmission line routes, alternative substation sites, and the No Project Alternative required by CEQA. In comments on the Draft EIR and during the CPUC's hearings as part of its General Proceeding, additional alternatives have been suggested. The new or revised alternatives that are evaluated in this Supplemental DEIR are described in Section B.2 and include:

- US DataPort Substation Alternative
- Northern Underground Alternative
- Modified I-880-A Alternative
- Modified I-880-B Alternative
- McCarthy Boulevard Alternative Segment
- Southern Underground Alternative

Two alternatives were suggested that are not considered in this Supplemental DEIR. The rationale for their elimination from analysis is described in Section B.3. These suggested alternatives are:

- Underground Through Water Pollution Control Plant (2 routes)
- Overhead Route Through Milpitas (along I-880).

B.2 NEW AND REVISED ALTERNATIVES EVALUATED IN SUPPLEMENTAL DEIR

Based on comments submitted on the Draft EIR, six new or revised alternatives are analyzed in this Supplemental Draft EIR. In addition, two other issues (related to biological resources and EMF mitigation) are considered in more depth. The six new or revised alternatives are described in Sections B.2.1 through B.2.6 below.

The two other issues are addressed in this Supplemental Draft EIR include:

- **EMF Mitigation.** Evaluation of the impacts of PG&E Co.'s proposed mitigation for effects of electric and magnetic fields (EMF) is presented in Section C.8.

\$ **Biological Resources Concerns (Bird Collision and Salt Marsh Harvest Mouse Impacts).** An expanded discussion of these impacts and mitigation is included in Section C.9.

B.2.1 US DataPort Substation Alternative

This substation site alternative would be located immediately northwest of the proposed Los Esteros Substation on agricultural land owned by the City of San Jose. It is evaluated in response to a request that has been made that PG&E Co. relocate its substation site from privately owned land to City land in order that a larger development, proposed by US DataPort, could use the currently proposed substation site. The City of San Jose stated in its comment letter on the Draft EIR that it is evaluating a US DataPort development proposal that would require relocation of the PG&E Co. substation site in order to be compatible with the new zoning of the property. This new substation site alternative is evaluated in Section C.2 of this Supplemental DEIR.

Figure B-1 illustrates the substation site suggested by US DataPort, and the routes of the 230 kV and 115 kV lines entering and leaving the substation alternative. This substation alternative would be very close to PG&E Co.'s proposed site: the northwest corner of the proposed site would become the southeast corner of the US DataPort Substation Alternative. As a result, the two sites would have similar environmental impacts. The primary differences between the sites are that (a) the proposed site would require demolition of agricultural buildings, greenhouses, and residences while the alternative site would require no demolition or displacement of housing, (b) the alternative site would be located about 500 feet further north, immediately adjacent to the Water Pollution Control Plant (WPCP) and to a future alignment of the Bay Trail that would run between the WPCP property and the substation, and (c) the US DataPort Substation Alternative would remove City of San Jose agricultural land from use for disposal of treated water.

B.2.2 Northern Underground Alternative

This alternative, illustrated in Figure B-2 and evaluated in Section C.3, would replace the northernmost 2.7 miles of the proposed project (which could also be replaced by the I-880-A Alternative). It would start at the same tap point to the Newark-Metcalf 230 kV line, where the I-880-A Alternative would also begin, but because there is not sufficient space between existing industrial land uses and the I-880 Freeway, the route would start by heading south along the property line for about 1,800 feet to Christy Street, turn southeast in Christy Street to the end of the street, then enter the Pacific Commons Preserve. The route would follow the eastern edge of the Preserve to the extent possible (along the boundary with the I-880 Freeway), and then enter the Northport Loop business park into the parking lot northwest of the northerly-most building. The two underground trenches would continue through the parking lot and into the street (Northport Loop east, then turn east on Cushing Parkway and south on Fremont Boulevard. The route would continue down Fremont Boulevard until it reaches the point where the existing 115 kV ROW crosses Fremont Boulevard.

Figure B-1
US DataPort Alternative Substation Site
b/w 8.5 x 11

Figure B-2, page 1
Northern Underground Alternative
black/white 8.5 x 11

This alternative could connect with other routes in the central portion of the route in several places:

- \$ If the Underground Through Business Park Alternative were selected, the underground route down Fremont Boulevard would enter the 115 kV ROW and continue through the business park.
- \$ If the I-880-B Alternative were selected, the two underground/overhead structures could be located at the corner of Fremont Boulevard and Landing Parkway, or on Landing Parkway near the I-880 Freeway.
- \$ If the proposed route through the Bayside Business Park were selected, the underground route could be extended to the west of Fremont Boulevard, along Clipper Court and through the parking lot to the point where the 115 kV ROW enters the business park.

B.2.3 Modified I-880-A Alternative

In its Draft EIR comment letter, PG&E Co. suggested a revision to the I-880-A Alternative route at the point where it would connect with the proposed route along the western edge of the Bayside Business Park. As shown in Figure B-3, the revised alignment would affect the approximately 1-mile long connection between the I-880-A Alternative (at the western end of Cushing Parkway) and the proposed route (at the northwestern edge of the Bayside Business Park). In this area, there are two pairs of existing 115 kV transmission lines. The realignment would not change the overall length of the I-880-A Alternative but it would be more closely aligned with the existing westerly 115 kV transmission line corridor through the salt pond, resulting in the co-alignment of 4 of the 5 towers in the salt ponds with existing towers. However, the new towers would still be considerably taller than the adjacent 115 kV towers (from 15 to 75 feet taller). This alternative is evaluated in Section C.4.

B.2.4 Modified I-880-B Alternative

Figure B-4 illustrates the Draft EIR route of the I-880-B Alternative and the changes to that route evaluated in this document. Section C.5 contains the impact analysis for this modified alternative. The three changes to this alternative total about 6,900 feet and are required for the following reasons:

At Cushing Parkway, the original I-880-B route was to run due east to the I-880 Freeway and then turn south adjacent to the freeway. Since the EIR analysis began, a hotel complex has been constructed at the southwest corner of Cushing Parkway and I-880. There is no longer room to install the line adjacent to the freeway, therefore, it must turn south at Fremont Boulevard from Cushing Parkway then east on Landing Parkway to the 880 Freeway (about 1,900 feet of revised transmission line routing, likely involving the relocation of one tower from the southwest corner of the Cushing Parkway/I-880 interchange to the corner of Fremont Boulevard and Landing Parkway).

Placeholder – Figure B-3
Modified I-880-A Alt

Placeholder – Figure B-4
Modified I-880-B Alternative

- At the point where Landing Parkway turns west (about 1,000 feet north of Warren Avenue) where the original I-880-B route was to follow the west side of the I-880 Freeway, the route has been moved slightly west to avoid the planned Caltrans Mission Boulevard Interchange construction, as recommended in the Draft EIR as Traffic/Transportation Mitigation Measure T-10. The revised route would be located in the frontage adjacent to Lakeview Boulevard (rather than behind the buildings on Lakeview Boulevard). This revised segment is about 4,000 feet long and would result in the relocation of about 4 towers from immediately adjacent to the I-880 Freeway to Lakeview Boulevard.
- At the south end of the Bayside Business Park, the route would turn west, following Lakeview Boulevard to Fremont Boulevard, rather than stay along the western edge of the I-880 Freeway. This change was required to avoid locating a tower at the edge of the Alameda County Flood Control channel adjacent to the freeway. This segment is about 1,000 feet long and would result in the relocation of one or two towers.

B.2.5 McCarthy Boulevard Alternative Segment

The proposed 230 kV route would cross the western portion of the Coyote Creek riparian mitigation site, including the large mitigation pond (located just south of Dixon Landing Road), which would be within the flight path of birds flying to and from the mitigation area. Several commenters, including the San Francisco Bay Bird Observatory, the Ohlone Audubon Society, and the U.S. Fish and Wildlife Service, suggested development of a route that would reduce impacts on this area where the San Francisco Bay Bird Observatory has operated a banding station for more than 10 years. Figure B-5 illustrates a transmission line route that would pass east of the mitigation area. In order to do this, the route must make two additional crossings of Coyote Creek. However, these crossings have been located in areas where little or no riparian vegetation would need to be removed. This alternative segment is evaluated in Section C.6.

B.2.6 Southern Underground Alternative

This alternative would replace the aboveground transmission line south of the Bayside Business Park and through the WPCP with an underground line located primarily east of Coyote Creek. This is a difficult area in which to locate an underground transmission line due to (a) the required crossings of Coyote Creek, (b) the presence of both the Milpitas sewer lift facility and the WPCP (and associated pipelines) in the area, and (c) the geologic conditions of the area and high potential for liquefaction. As described below, this route could not be entirely located underground due to geologic and hydrologic conditions. This alternative is illustrated on Figure B-6 and the impacts of this route are evaluated in the Section C.7.

The route would transition (or stay) underground (depending on which route through the business park is selected) at the south end of the Bayside Business Park, and be located immediately west of the (future) Fremont Boulevard. Just south of the intersection of (future) Fremont Boulevard and Dixon Landing Road, Coyote Creek makes a sharp bend, turning to the west. An underground

crossing of the

Figure B-5 page 1
McCarthy Blvd Alt

Figure B-6
Southern Underground Alt

creek in this area would not be possible since the angle of the creek would require a very long horizontal bore or directional drill through the unconsolidated creek and bay mud soils. This underground crossing is not considered to be feasible, therefore, a pair of transition structures would need to be located north of Coyote Creek to bring the line aboveground. The aboveground line would span Coyote Creek and the McCarthy Boulevard bridge to a point just south of the bridge and west of McCarthy Boulevard, where two additional pairs of transition structures would take the lines back underground. The underground lines would follow the west side of McCarthy Boulevard (either below the roadway or immediately adjacent to the roadway below the landscaped area) for about 1.5 miles, where the line would turn west to cross Coyote Creek and re-join the proposed route at Milepost 6.7.

The southern Coyote Creek crossing could be either overhead (which would require two transition structures east of the creek and the clearing of riparian vegetation) or underground (requiring a bored crossing in the unconsolidated sediments below the creek and installation of two transition structures west of the creek). Both types of crossing are evaluated below: the overhead crossing is evaluated in biological and visual resources and the bored crossing is evaluated in the geology and hydrology issue areas. In either case, the line would be aboveground for the last 0.5 miles into the proposed substation site.

B.3 ALTERNATIVES SUGGESTED IN DRAFT EIR COMMENTS BUT NOT EVALUATED

In addition to the new or revised alternatives listed in Section B.2 and analyzed in Section C of this Supplemental DEIR, comment letters or testimony on the Draft EIR also suggested other alternatives. Following are the alternatives that are not analyzed herein and the reasons for their elimination from analysis.

B.3.1 Underground the 230 kV Transmission Line Through the Water Pollution Control Plant

There are two potential routes for an underground line through the WPCP: (a) along the route of the proposed overhead transmission line at the eastern edge of the facility, and (b) through the center of the WPCP under the WPCP's existing paved north-south roadway.

Underground Along Proposed Overhead Route. Installing an underground line along the proposed overhead route (along the eastern edge of the WPCP) would not be feasible because the City of Milpitas recently installed a major sewer line in that dirt road. There is not sufficient room left for the two trenches required for the underground line, and the line could not be installed in the Coyote Creek levee because such installation would reduce the integrity of the levee, which serves a critical flood control purpose.

Underground Through the Center of the WPCP. Installation of an underground line through the

center of the WPCP would limit the WPCP's ability to install and maintain underground pipelines in their facility (Garner, personal communication, 2000). The operation of the WPCP involves piping of effluent into lagoons or treatment ponds, and therefore the presence of two buried duct banks carrying the 230 kV transmission lines would restrict their ability to operate. In addition, construction of two parallel underground duct banks through the WPCP would take many months, and would occupy the entire main roadway through the facility. This essential public service facility serves much of Santa Clara County. Therefore, an underground route through the WPCP was not evaluated.

B.3.2 Overhead Route Through Milpitas (along I-880)

Comment letters on the Draft EIR suggested that an overhead route be considered that followed the west side of I-880 south of the Bayside Business Park. This route is not considered for the following reasons:

- \$ The McCarthy Ranch development, which is located between I-880 and Coyote Creek and between Highway 237 and Dixon Landing Road, currently includes a busy retail center at its south end with buildings immediately adjacent to the Caltrans right-of-way. The retail center follows the I-880 Freeway to Highway 237 connector, and there is not room for an overhead line in that area.
- \$ A route through Milpitas would require two additional crossings of Coyote Creek: one new crossing (west to east) south of Dixon Landing Road, and one crossing (east to west) to get back to the substation site. An overhead crossing of Coyote Creek in a riparian zone would require removal of substantial amounts of existing mature riparian habitat in order for PG&E Co. to comply with the CPUC's General Order 95 (transmission line safety), which specifies clearance requirements over vegetation. The McCarthy Boulevard Alternative, analyzed in Section C.6 would have an overhead crossing of Coyote Creek at a point designated for overcrossings by the Santa Clara Valley Water District – there is riprap on both sides of the creek and limited vegetation. There are no more designated overcrossings between Dixon Landing Road and Highway 237.
- \$ There is not sufficient space for an overhead line to be installed along the north side of Highway 237 between the I-880 Freeway/Highway 237 interchange and the west side of Coyote Creek. The McCarthy Ranch retail development, the McCarthy Boulevard off-ramp from Highway 237, and intensive activities by the Corps of Engineers in and around Coyote Creek use the available space in this area, resulting in insufficient clearance for a 230 kV line.

B.4 SUMMARY OF UNDERGROUND CONSTRUCTION REQUIREMENTS

This Supplemental Draft EIR includes analysis of two underground transmission line routes as alternatives to the proposed project's overhead route. Appendix 4 of the Draft EIR presented information on underground transmission line construction: that information is summarized here and additional explanation added to clarify construction requirements. For this project, PG&E Co. would

use a solid dielectric cable system includes two sets of six electric cables (six in each concrete duct bank, as illustrated in Figure B-7). The concrete duct banks separate the six cables that would be used to carry the 230kV power. In this project, because the transmission line would have bundled conductors (two conductors at each arm position rather than one), two separate duct banks would be required. Figure B-7 illustrates the construction right-of-way and the position of the two trenches.

Figure B-7 – cross section of 2 trenches/duct banks

Each of the two duct banks containing the solid dielectric cables would be installed in a trench approximately four to five feet wide and six feet deep. The duct bank would have a minimum cover of 32 inches. Approximately every 1,500 feet, splice vaults would be incorporated for installing cables and splicing sections of cables together. Cables would rise out of the ground at two transition structures at each end of an underground segment. Cable installation would be completed using cut and cover construction (also known as open trenching) of the underground power line, conduits, and duct banks. Thermal select backfill would be installed and compacted above the duct bank to minimize heat transfer. After construction (if in a roadway), the road surface is paved in a manner acceptable to the city or agency having jurisdiction, or if in open space, the ground surface would be restored to a natural appearance.

Construction Activities. Draft EIR Appendix 4 describes construction activities in detail. The major construction activities associated with installation of underground cable in urban streets are as follows:

- Saw cut the pavement for the trench and splice vaults
- Excavate a trench for the electrical conduit bank
- Haul away and dispose of trenched and excavated spoils
- Install the cable conduit, reinforcement bar, ground wire, and concrete conduit encasement (duct bank)
- Excavate and place pre-formed concrete splice vaults
- Backfill the trench
- Pull cable into the conduit bank and splice at several predetermined locations (vaults) along the route
- Terminate cables at transition structures
- Horizontal bore of one or two steel casings under waterways or major streets
- Restore all paved surfaces, restore landscaping as necessary, and clean up the job site.

Construction Duration. The length of time required for constructing underground cables is dependent on the length and the type of land crossed. Generally, only between 300 and 600 feet of trench can be open at one time, so construction of each trench would move along a street through all phases of the construction process. For a line of about three miles, this phase of the project would take approximately 13 months: trenching, installation of the concrete duct bank, and vault installation would be completed within five months, while cable installation, splicing, and terminating would require approximately six months.

Horizontal Dry Boring. The southern crossing of Coyote Creek may be bored in the Southern Underground Alternative (boring would eliminate disturbance to the riparian vegetation in the creek). Because open trenching through flowing waterways is not desirable, horizontal dry boring can be used for underground construction across such waterways. In these cases, up to two steel casings between 30 and 42 inches in diameter will be installed under the creek at least five feet below the creek bed or as required by the permitting agency. An area approximately 25 feet by 100 feet would be used at one end of the boring area for laydown and boring. A shored trench of approximately 20 feet deep would be used as a receiving area for the bore casing. In general, a bore would result in casing placed about five feet below the creek bed. The setup for the dry boring operation would require a crew of four, while the operation of the bore would only require two or three crew

members. The duct pull would require a crew of four to six. The length of time estimated for completing the bore is three weeks.